

217/782-2113

CONSTRUCTION PERMIT -- REVISED

PERMITTEE

3M Company
Attn: Dawn Krueger
P.O. Box 33331, Building
St. Paul, Minnesota 55133-3331

Application No.: 88050033
Applicant's Designation: 20-01
Subject: 20-01 Cell System
Date Issued: September 16, 2003
Location: 22614 Route 84 North, Cordova

I.D. No.: 161807AAA
Date Received: February 13, 2003

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of 20-01 cell system; stills; a receiver; 4 weigh tanks; expansion tanks; decanters; a collection column; 20-11 column system; a surge tank; a blowdown tank; 6 condensers; a scrubbing system; 2 emergency 20-01 system spot exhaust scrubbers (2001-C-06, 2031-C-01); A HF tank; a MSCL tank; 4 recycle HF tanks; a PMSF tank; a lime blowdown tank and ancillary equipment, as described in the above referenced application. This Permit is granted subject to the attached Standard Conditions for Operating Permits and the following special conditions. Approval was previously given with respect to the federal rules for Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21, to construct the above referenced equipment. Any departure from the conditions of this permit or terms expressed in the application shall receive prior written authorization of IEPA.

1. Standard conditions for construction permits incorporated herein by reference, shall also apply to this project, unless superseded by the following special conditions.
- 2a.
 - i. The Permittee shall follow the Contingency Plan entitled "Accidental Discharge Notification Procedure" as filed with the Illinois EPA in the Permittee's letter dated November 21, 1983. The Permittee shall immediately notify the Illinois EPA's Emergency Management Center via the Illinois Emergency Services and Disaster Agency's (ESDA) 24-hour telephone number and provide information as outlined in the Appendix C to the Illinois EPA's local field office by telephone as soon as possible upon the occurrence of such an incident.
 - ii. Within five (5) working days of such occurrence, the Permittee shall give a written follow-up notice to the Illinois EPA's regional office providing an explanation of the occurrence, the length of time during which operation continued under such conditions, measure taken by the Permittee to minimize excess emissions and correct deficiencies, and when normal operation resumed.

- b. As an alternate to above requirements, the Permittee shall follow the procedures of Risk Management Plan (RMP) submitted pursuant to Section 112(r) of the Clean Air Act, if an incident is addressed by the RMP.
3. Emissions of volatile organic material from each electrochemical cell shall be controlled by a condenser or series of condensers, operating to achieve a final gas outlet temperature of -40°F.

Condition 3 represents the application of the Best Available Control Technology for VOM as required by Section 165 of the Clean Air Act.

4. Emissions of fluorides from electrochemical cells shall be controlled by a combination of:
 - a. A condenser(s), operating to achieve a gas outlet temperature of -40°F, followed by
 - b. A scrubber(s), operating to achieve at least 97% control for fluoride. If a thermal oxidizer system control is utilized at the exhaust, these scrubbers shall be located downstream of the oxidizer.
5. Emissions from the 20-01 cell system shall not exceed the following limits:

	<u>(Lbs/Hour)</u>	<u>(Tons/Year)</u>	<u>Notes</u>
VOM	8.00	47.0	1
Other Organic Material (NONVOM)	---	1,000.0	2
CO	5.00	22.0	--
HF	0.68	3.0	--

- Notes:
1. For purpose of this permit, organic material that meets the definition of photochemically reactive material in IAC 211.4690 shall comply with 35 IAC 215.301 by demonstrating 85% or more reduction in the uncontrolled organic material emission, or organic material emissions less than or equal to 8 lb/hour. Organic material emissions that do not meet the definition of photochemically reactive material as defined in 35 IAC 211.4690 are exempt from 35 IAC 215.301.
 2. For the purpose of this permit, other organic material (NONVOM) is organic material as defined in 35 IAC 211.4250 that does not qualify as volatile organic material, hazardous air pollutants, ozone depleting substances or photochemically reactive organic material.

These limits are based on the maximum emission rates indicated in the permit application.

6. As a result of the above limits and other conditions in this permit, this permit is issued based on the 20-01 cell system not constituting a major modification for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, because the net increase in VOM emissions is 39.0 tons per year after modification and are below their PSD significance threshold.
- 7a.
 - i. The emissions of volatile organic material and fluorides from subject equipment shall be measured by an approved testing service within 120 days of a written request by the Agency. The volatile organic emissions shall be differentiated by specific chemical compound.
 - ii. Emission testing shall also be promptly conducted after a written request by the Illinois EPA in accordance with such requirement.
- b. Volatile organic material measurements shall be made in accordance with a formal testing procedure submitted in writing to and approved by the Permit Section. Fluoride emission measurements shall be made in accordance with 40 CFR 60, Appendix A, Method 13A, 13B or Method 320 (Fourier Transform Infrared Analysis) to identify individual compounds.
- c. Prior to carrying out these tests, the Agency's regional office in Peoria and the Agency's Source Emission Test Specialist shall be notified a minimum of thirty (30) days prior to the expected date of these tests and further notified a minimum of five (5) working days prior to the test of the exact date, time and place of these tests, to enable the Agency to examine the qualifications of the testing service, to review the conditions under which testing will be performed, and to witness the tests.
- d. Three (3) copies of the Final Report(s) for these tests shall be submitted to the Permit Section within 14 days after the test results are compiled and finalized.
- e. A copy of the Summary of Results, General Information, and Conclusions, as contained in the Final Report, shall also be submitted to the regional office and the Source Emission Test Specialist.
8. The Permittee shall maintain, calibrate and operate continuous monitoring systems and carry out other non-continuous monitoring practices to monitor and record appropriate equipment operating parameters to demonstrate the performance of control equipment.
9. The scrubber shall be equipped with monitoring devices for the following:
 - a. Flow of process gas to the scrubber (on/off).

- b. Scrubbant flow rates or other appropriate parameters, e.g., pump motor amps or pressure in the water supply line to indicate the flow of scrubbant in the scrubber. These devices shall be operated at all times that the scrubber is in use and maintained in accordance with good air pollution control practice.
- 10a. Permittee shall maintain file of the manufacturer's specifications for scrubber.
- b. The Permittee shall maintain records of the following process information for the 20-01 cell system.
 - i. The amount of organic materials used in the 20-01 cell system for each product or category of product accompanied by process design information for "consumption" of the organic raw material by the system, as the Permittee assumes that only a fraction of the organic raw material is emitted to the atmosphere as VOM.
 - ii. The maximum hourly emission rates of VOM, NONVOM and Hydrogen Fluoride (HF) for each product or categories of products, based on design calculations for the 20-01 cell system with supporting information.
 - c. The Permittee shall maintain the following operating records for the 20-01 cell system:
 - i. Production of the acid fluoride, by category or subcategory of product as necessary to determine VOM emissions of 20-01 cell system.
 - ii. Operating logs for each department, which at a minimum identify periods of time when scrubbers, or condensers, or other elements necessary for emissions did not function adequately, with date, duration, product being processed and other descriptive information.
 - d. The Permittee shall keep inspection, maintenance, and repair logs with date and nature of such activities for the scrubber.
 - e. The Permittee shall maintain the following records related to emissions from the scrubber:
 - i. Other data, not addressed above, used or relied upon by the Permittee to determine emissions.
 - ii. Monthly and annual emissions of VOM, other organic material, CO, and HF from scrubber with supporting calculation.
- 11. All records required by this permit shall be maintained for at least three years and shall be available for inspection and copying by the Illinois EPA.

12. The Permittee's Annual Emission Report submitted to the Illinois EPA shall include:
 - a. Date on emissions of NONVOM from the 20-01 cell system along with data for emissions of other pollutants.
 - b. A listing of any periods during the previous year when any limit contained in this permit was exceeded including detailed explanation of the cause for exceedance.
13. All required notifications and reports shall be sent to the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

It should be noted that this permit has been revised to increase the emission limits for VOM, NONVOM, and CO as requested by the Permittee, to provide it with flexibility to use the 20-01 cell system to meet new and changing markets for materials that can be produced by this system.

It should be noted that this permit also addressed modifications to existing equipment that was covered by Operating Permits 76010105 and 91100009.

If you have any questions on this, please call Minesh Patel at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:MVP:psj

cc: Region 2